What is claimed is:

1. An injection device for use with tissue of a mammalian body comprising a first tubular member and a second tubular member slidably disposed in the first tubular member, the first and second tubular members having respective proximal and distal extremities, the distal extremity of the second tubular member being provided with a needle that is extendable from the distal extremity of the first tubular member and means carried by the proximal extremities of the first and second tubular members for locking the proximal extremity of the second tubular member relative to the proximal extremity of the first tubular member, the second tubular member having a column strength when locked within the first tubular member for limiting retraction of the second tubular member relative to the first tubular member during puncture of the tissue by the needle.

2. The device of Claim 1 wherein the needle is made from metal, the second tubular member having an elongate portion made from plastic and terminating at a shoulder, the needle being attached to the elongate portion and extending forwardly of the shoulder.

3. The device of Claim 1 wherein the second tubular member is provided with a passageway, at least one optical element disposed in the passageway.

4. The device of Claim 3 wherein the at least one optical element includes a first optical element for supplying light to the tissue and a second optical element for receiving light reflected back by the tissue.

5. The device of Claim 3 wherein the needle has a distal face lying in a plane and the at least one optical element has an end surface inclined at the angle and lying in the plane of the distal face.

6. The device of Claim 1 wherein the second tubular member extends along a longitudinal axis and the needle has a distal face inclined at an angle greater than 25 degrees relative to the longitudinal axis.

7. The device of Claim 6 wherein the distal face is inclined at an angle of approximately 30 degrees relative to the longitudinal axis.

8. The device of Claim 1 wherein the second tubular member extends along a longitudinal axis and the needle has a distal face inclined at an angle to the longitudinal axis, the needle being provided with a bevel which intersects the distal face to form a sharpened tip

9. The device of Claim 1 further comprising a supply of at least one solution of a biocompatible composition and a biocompatible solvent coupled to the proximal extremity of the second tubular member for forming an implant in the tissue of the mammalian body.

10. The device of Claim 9 wherein the biocompatible composition includes a biocompatible prepolymer.

11. The device of Claim 9 wherein the at least one solution of the biocompatible composition and the biocompatible solvent has a composition comprising from about 2.5 to about 8.0 weight percent of a biocompatible polymer, from about 10 to about 40 weight percent of a water insoluble biocompatible contrast agent and from about 52 to about 87.5 weight percent of a biocompatible solvent.

12. An injection device for introducing a material into tissue of a mammalian body comprising a first tubular member being provided with a longitudinally-extending lumen, a second tubular member slidably disposed in the lumen of the first tubular member, the first and second tubular members having respective proximal and distal extremities, the distal extremity of the second tubular member being provided with a needle that is extendable from the distal extremity of the first tubular member, a reservoir of a solution of a biocompatible composition and a biocompatible solvent coupled to the proximal extremity of the second tubular member, the proximal extremity of the first tubular member having a port, a reservoir of the biocompatible solvent coupled to the port for clearing any of the biocompatible composition that clogs the first tubular member distal of the port.

13. The device of Claim 12 further comprising a fluid seal disposed between the first and second tubular members proximal of the port.

14. The device of Claim 12 wherein the biocompatible composition includes a biocompatible prepolymer.

15. The device of Claim 12 wherein the biocompatible composition includes a biocompatible polymer.

16. An injection device for use with an injectable material comprising a syringe, a needle and a pressure indicator for connecting the needle to the syringe and monitoring the pressure of the injectable material.

17. The device of Claim 16 wherein the pressure indicator includes a spring-loaded pressure indicator.

18. The device of Claim 16 wherein the pressure indicator includes a flexible membrane pressure indicator.

19. An injection device for use with an injectable material comprising a syringe provided with a chamber adapted to receive the injectable material, a needle and a pressure indicator coupled to the syringe for monitoring the pressure of the injectable material.

20. The device of Claim 19 wherein the pressure indicator includes a spring-loaded pressure indicator disposed between the syringe and the needle.

21. The device of Claim 19 wherein the pressure indicator includes a flexible membrane pressure indicator disposed between the syringe and the needle.

22. The device of Claim 19 wherein the syringe include a plunger and the pressure indicator includes a clutch carried by the plunger.

23. The device of Claim 22 wherein the plunger is externally threaded.

24. A screw-type syringe for use with an injectable material comprising a barrel forming a chamber adapted for holding the injectable material, a plunger threadedly engaging the barrel, a mixer carried by the plunger and extending forwardly of the plunger into the chamber for stirring the material as the plunger is rotated relative to the barrel.

25. The syringe of Claim 24 wherein the barrel has a forward wall, the plunger having a spring for urging the mixer against the forward wall.

26. The syringe of Claim 25 wherein the plunger is provided with a recess for receiving at least a portion of the mixer, the spring being disposed in the recess and engaging the mixer.

27. The syringe of Claim 24 wherein the mixer is U-shaped.

28. A method for operating a medical device having proximal and distal extremities and a first tubular member slidably disposed in a passageway of a second tubular member and a reservoir of a solution of a biocompatible composition and a biocompatible solvent coupled to the first tubular member during a procedure for treating a mammalian body comprising the steps of inserting the distal extremity of the assembly into the body, introducing the solution through the first tubular member to treat the body, withdrawing the first tubular member from the second tubular member while the second tubular member remains at least partially disposed in the body, cleaning the passageway of the second tubular member, returning the first tubular member to the passageway of the second tubular member and continuing the treatment of the body.

29. The method of Claim 28 wherein the cleaning step includes flushing the passageway of the second tubular member with a fluid.

30. The method of Claim 28 for use with an elongate probe member having a passage and wherein the inserting step includes introducing the elongate probe member into the body and inserting the first and second tubular members into the body by means of the passage of the elongate probe member.

31. A method for treating tissue of a mammalian body with a needle having proximal and distal extremities and at least one optical element extending in a passageway from the proximal extremity to the distal extremity of the needle comprising the steps of inserting the distal extremity of the needle into the tissue and determining the type of tissue with the at least one optical element.

32. The method of Claim 31 wherein the determining step includes interrogating the tissue with the at least one optical element to detect the presence of myoglobin or hemoglobin.

33. The method of Claim 31 wherein the determining step includes interrogating the tissue with the at least one optical element to determine the amount of oxygen saturation in the tissue.

34. The method of Claim 31 wherein the determining step includes supplying light to the at least one optical element and thus the tissue and monitoring the light reflected back by the tissue.